AF/2628

PATENT
10/728,165

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	: Group Art Unit: 2628
	: Examiner Eric V. Woods
	: Customer No. 32,329
Joshua G. Twait	: Intellectual Property
Serial No: 10/728,165	: Law Department - 4054
Filed: 12/04/2003	: International Business
Title: A COMPUTER DISPLAY	: Machines Corporation
SYSTEM FOR DYNAMICALLY	: 11400 Burnet Road
MODIFYING STACKED AREA LINE	: Austin, Texas 78758
GRAPHS TO CHANGE THE ORDER OR	:
PRESENCE OF A SET OF STACKED	:
AREAS IN THE GRAPH	:
RESPECTIVELY REPRESENTATIVE	:
OF THE PROPORTIONS	:
CONTRIBUTED TO A TOTAL BY	:
EACH OF A SET OF TIME	:
DEPENDENT VARIABLES	:
Date: __11/08/2006__	:

CERTIFICATE OF MAILING

I hereby certify that this correspondence including a Brief on Appeal (in triplicate), and this transmittal letter (duplicate) is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450 on ___11/08/2006___.

___J. B. KRAFT___

___J. B. Kraft___   ___11/08/2006___
Signature   Date

TRANSMITTAL OF APPELLANTS' BRIEF UNDER 37 CFR 1.192(a)

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

   Attached is Appellants' Brief (in triplicate) in this
Appeal from a decision of the Examiner dated July 14, 2006
finally rejecting claims 1-23.   *09-0447*

   Please charge our Deposit Account No. ~~32,329~~ in the
amount of $500.00 for the Appeal Brief fee. (a duplicate of
this transmittal is included.)

   The Commissioner is hereby authorized to charge any
additional fee which may be required or credit any
overpayment to Deposit Account No. ~~32,329~~.
                                    09-0447

Respectfully submitted,

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                        Austin TX. 78758

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Joshua G. Twait

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BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

This is an Appeal from the Final Rejection of Claims 1-23 of this Application. An Appendix containing a copy of each of the Claims is attached.

I.   Real Party in Interest

The real party in interest is International Business Machines Corporation, the assignee of the present Application.

II.   Related Appeals and Interferences
None

III.   Status of Claims

A.   TOTAL NUMBER OF CLAIMS IN APPLICATION

There are 23 claims in this Application.

B.   STATUS OF ALL THE CLAIMS

1.   Claims cancelled: None.
2.   Claims withdrawn from consideration but not cancelled: None.
3.   Claims pending: Claims 1-23.
4.   Claims allowed: None.
5.   Claims rejected: Claims 1-23.

C. CLAIMS ON APPEAL

Claims on appeal: Claims 1-23.

IV.   Status of Amendments

No amendments have been filed after Final Rejection.

V. Summary of Claimed Subject Matter

   Claim 1 is annotated with respect to the Specification and Drawings as follows.

1.   A computer implemented user interactive method for graphically displaying (the method of data processor controlled display system of Fig. 1, described on page 4, lines 9-13 of the Specification) the proportion of a total value of a time dependent variable contributed by each of a set of elements (the displayed graph of Fig. 2, described on page 4, lines 14-18) comprising the steps of:

   displaying the proportion contributed by each element (graph of Fig. 2, described from page 6, line 32 - page 7, line 8) of the same time dependent variable (Fig. 2, described as representing the same time dependent variable: temperature, page 6, line 34 to page 7, line 5) as an area within an ordered set of areas (Fig. 2, areas 62-63, described at page 7, lines 5-8) under a line representative of the total value of said time dependent variable (Fig. 2, total temperature line 64, page 1, lines 1-4);

   enabling the user to interactively select one of said set of areas (Fig. 2, as described at page 7, lines 5-8, each of areas 61-63 may be respectively selected through corresponding icons 71-73); and

   performing a selected operation selected from the group consisting of hiding the selected area (Fig. 3 described on page 7, lines 8-14), displaying the selected area (redisplaying with respect to going from the stack of Fig. 3 back to the stack of Fig. 2, as described at page 7, lines 15-18) and reordering the position of the selected area within said ordered set responsive to said user selection (the positions in the graph of Fig 3 are reordered to the position in Fig. 4, as described in the specification on page 7, lines 19-34).

Claim 8 is annotated with respect to the Specification and Drawings as follows.

8. A data processor controlled user interactive display system for graphically displaying (the data processor controlled display system of Fig. 1, described on page 4, lines 9-13 of the Specification) the proportion of a total value of a time dependent variable contributed by each of a set of elements (the displayed graph of Fig. 2, described on page 4, lines 14-18) comprising:

means for displaying the proportion contributed by each element (graph of Fig. 2, described from page 6, line 32 - page 7, line 8) of the same time dependent variable (Fig. 2, described as representing the same time dependent variable: temperature, page 6, line 34 to page 7, line 5) as an area within an ordered set of areas (Fig. 2, areas 62-63, described at page 7, lines 5-8) under a line representative of the total value of said time dependent variable (Fig. 2, total temperature line 64, page 1, lines 1-4);

means for enabling the user to interactively select one of said set of areas (Fig. 2, as described at page 7, lines 5-8, each of areas 61-63 may be respectively selected through corresponding icons 71-73); and

means for performing a selected operation selected from the group consisting of hiding the selected area (Fig. 3 described on page 7, lines 8-14), displaying the selected area (redisplaying with respect to going from the stack of Fig. 3 back to the stack of Fig. 2, as described at page 7, lines 15-18) and reordering the position of the selected area within said ordered set responsive to said user selection (the positions in the graph of Fig 3 are reordered to the position in Fig. 4, as described in the specification on page 7, lines 19-34).

Claim 15 is annotated with respect to the Specification and Drawings as follows.

15. A computer program having code recorded on a computer readable medium (the computer described with respect to Figs. 5 and 6, as described from page 8, line through page 9, line 26) for graphically displaying (the data processor controlled display process of Fig. 1, described on page 4, lines 9-13 of the Specification) the proportion of a total value of a time dependent variable contributed by each of a set of elements in a computer controlled user interactive display system comprising:

means for displaying the proportion contributed by each element (graph of Fig. 2, described from page 6, line 32 - page 7, line 8) of the same time dependent variable (Fig. 2, described as representing the same time dependent variable: temperature, page 6, line 34 to page 7, line 5) as an area within an ordered set of areas (Fig. 2, areas 62-63, described at page 7, lines 5-8) under a line representative of the total value of said time dependent variable (Fig. 2, total temperature line 64, page 1, lines 1-4);

means for enabling the user to interactively select one of said set of areas (Fig. 2, as described at page 7, lines 5-8, each of areas 61-63 may be respectively selected through corresponding icons 71-73); and

means for performing a selected operation selected from the group consisting of hiding the selected area (Fig. 3 described on page 7, lines 8-14), displaying the selected area (redisplaying with respect to going from the stack of Fig. 3 back to the stack of Fig. 2, as described at page 7, lines 15-18) and reordering the position of the selected area within said ordered set responsive to said user selection (the positions in the graph of Fig 3 are reordered

to the position in Fig. 4, as described in the specification on page 7, lines 19-34).

VI. Grounds of Rejection

Claims 1-20 are rejected under 35 USC 103(a) as obvious over the combination of the article <u>Excel, Available chart types</u> (an article printed from the Internet which appears to have a 2006 copyright date) in view of Havre (US6,466,211) further in view of Hao (US2005/0088441).

Claims 1-20 are rejected under 35 USC 103(a) as being unpatentable over the Excel article in view of Havre (6,466,211), further in view of Rao (US6,085,202).

Claims 21-23 are rejected under 35 USC 103(a) as being unpatentable over the Excel article in view of Havre (6,466,211), further in view of Hao (US2005/0088441), still further in view of Yonts (US6,590,577).

Claims 21-23 are rejected under 35 USC 103(a) as being unpatentable over the Excel article in view of Havre (6,466,211), further in view of Rao (US6,085,202), still further in view of Yonts (US6,590.

VII. Argument

The Excel, Available chart types article which only has a 2006 copyright date can not be used to antedate the present application filed in 2003.

The Examiner cites MPEP 2124, and argues that under the law cited in this section, the date of this Excel publication is irrelevant because it describes inherent characteristics of the Excel software which was available before the 2003 filing date of the present application. Applicants take issue with Examiner. It is submitted that this MPEP section requires that the "universal fact", e.g. characteristic must be inherent in the product which is released prior to the Application filing date.

Applicant concedes that the Excel spreadsheet product, and even the Excel product for creating graphs were released prior the 2003 filing date of this Application. However, the creation of a stacked area graph as shown in the figure of the cited Excel article is far from being an inherent characteristic of an Excel graphing program. It is merely a specific programming application which may be implemented using Excel spreadsheet and graphing program. Applicants submit, that unless Examiner can show other prior art related to the Excel program, then it is submitted that the Excel program for graphs released in 2003 did not have an inherent implementation involving a stacked line graph including displaying the portion contributed by a each of a plurality of elements of the same time dependent variable as an area within an ordered set of variables under a line representing the total value of the same time dependent variable. This is clearly just an application of the Excel program and not inherent in the basic Excel program.

It is noted that the Excel spreadsheet program has been the industry standard spreadsheet program for about 15 years. In that time period, Applicants estimate that the number of application programs and routines using the Excel program must be in the millions since its introduction. It is submitted that Examiner can not validly contend that every application program in these millions using the Excel program would be inherent in the basic Excel program. This in effect is what the Examiner appears to be arguing.

In order to support his argument as to inherency, Examiner refers to an example of an unapplied publication: Microsoft Excel XP - Charts, published by USC University, 2003. This publication is 47 pages in length of which, Examiner specifically refers to PP. 38-46. The publication discloses a variety of applications of graphing with Excel. However, the unapplied publication fails to disclose any application of a stacked line graph including displaying the portion contributed by a each of a plurality of elements of the same time dependent variable as an area within an ordered set of variables under a line representing the total value of the time dependent variable.

Accordingly, it is submitted that the basic Excel Available chart types is an invalid primary reference as it fails to antedate the present Application. Accordingly, the rejection of independent claims 1, 8, and 15, and of the remaining dependent claims 2-7, 9-14, and 16-23 under 35 USC 103(a) as being unobvious is now without any basis since the rejections now lack any basic prior art reference.

In any event even if the basic "Excel - Available chart types" article could be used as a reference, the present claimed invention would be unobvious for the following reasons.

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Claims 1, 8, and 15 are rejected under 35 USC 103(a) as obvious over the combination of the article <u>Excel, Available chart types</u> (an article printed from the Internet which appears to have a 2006 copyright date) in view of Havre (US6,466,211) further in view of Hao (US2005/0088441).

The areas inthe graphs of Havre's stack are labelled with different "themes". <u>These themes of Havre are not representations of the same time dependent variable</u>. In the example in Fig 3, of Havre, the total of the individual values of the use of the three words (themes) "cane", and "weapons", and "Brazil" are different time dependent variables which would have no significance as a combined total. They are apparently unrelated to each other. It is the individual totals of these words (themes) that are important, and not the sum of these individual totals which is not even shown or discussed in Havre's Figure 3.

In the Final Rejection, the Examiner points to Figs. 4-6 in Havre which he argues show the proportion of values contributed by the individual elements to the total line 54. In section, col. 6, lines 21-24, the references still continue to use "thematic labels" such as "cane" which again refers to the different elements which contribute to any total in the graph. Thus, even in Figs. 5 and 6 in Havre, the two superimposed stacked areas are described as representing different themes. It must be emphasized that because <u>Havre's elements i.e. themes are not the same time dependent variable</u>, the top boundary lines have no significance other than to frame the values of the individual different themes for Havre's purposes of comparing individual elements. In this connection, it is noted that at column 7, lines 1-15 of Havre, when a composite peak 54 is referred to, it is only for the purpose of centering the composite graph about the center line of Fig. 6. The Examiner also points to reference label 47 in

Havre as indicating time. Applicants concede that Havre discloses time dependent variables as indicated by label 47, the passage of months of the year. However, as set forth above, there are several time dependent variables i.e. not the same time dependent variable. In this connection, it is noted that at column 7, lines 1-15 of Havre, when a composite peak 54 is referred to, it is only for the purpose of centering the composite graph about the center line of Fig. 6.

Furthermore, Havre still does not teach manipulating the graphs of the contributing individual elements in the line graphs by either hiding and then displaying or reordering their positions. In this connection, the Examiner directs attention to column 6, lines 21-24 of Havre. This section does not refer to hiding or display of Havre's themes. It is merely referring to a standard user interface to display or hide display interface items such as identifiers i.e. labels or gridlines. This paragraph is clearly not intended to relate to the actual stacked themes in the graph.

The Examiner also points to column 9, lines 49-54 in Havre as teaching hiding or reordering of areas. Actually, this section refers to the flow chart of Fig. 9 in Havre, and deals with the initial setting up of the stacked areas on the graph. The decisions made with respect to selecting important theme areas to be displayed and even the number of such theme areas to be displayed relate only to the initial set up of the graph. There is nothing suggestive of enabling a user to interactively select areas already displayed on a display, and then interactively hiding or reordering the selected area.

Likewise, even if the above discussed Excel Available chart types article could have been considered to be a

valid reference, there would still be nothing suggestive of enabling a user to interactively select areas already displayed on a display, and then interactively hiding or reordering the selected area.

The Modifying Hao et al. Publication (US2005/0088441)

The modifying Hao reference does not make up for the deficiencies of Havre as a reference. Examiner points to paragraph 027 in Hao to teach the concept of a display of a group of elements of the same time-dependent variable stacked under a line representing the total value of the same time dependent variable. The graph of Fig. 3D referenced in the section of Hao fails as a teaching in many respects. First, the graph, e.g. "Category n" is not time dependent i.e. it does not change with time. Also, the variable is not the same time dependent variable; element 86 is the percentage of average response times; element 88 is the percentage of below average response times; and element 84 is the percentage of above average response times. Thus, even though all three elements deal with response time, there is no time variable dependency. Hao's description, [0028] notes that each category has the same height i.e the % averages always total 100% . Thus, there is no teaching or suggestion that the total in each category varies with time; the total of each of the categories is constant and unvaried. The three different variables i.e. the percentages of high, the percentage of low, and the percentage of average response times in sales transactions do not collectively change a total variable. The total is constant i.e. 100%. Further, with respect to the graph of Fig. 3D, there can be no suggestion of a time dependent variation (X-axis) of the individual elements. It should noted that in Section 0028 in Hao, it is set forth that the categories having greater numbers of sales are wider. Since

the X axis in the graph of Fig. 3d is used for the width variable, it can not be used for a time variable. The teaching of this X axis width variable would actually lead one skilled in the art away from even considering any X-axis as a time dependent variable.

Since it has been established hereinabove that the there is no teaching in Hao of time dependent variables, there would be no suggestion from the disclosure of Hao that the manipulation of the graphic elements in Hao as described in sections 0035, 0036, and 0040 therein would lead one skilled in the art to perform Applicants' user interactive operations on areas representative of same time dependent variables of this invention. All these sections in Hao teach is the manipulation of building blocks to form elements in graphs. There is no suggestion of the reordering or hiding of areas in graphs representative of portions of the of the same time dependent variable under a line representative of the total value of the time dependent variable.

Claims 1-20 are submitted to be unobvious under 35 USC 103(a), and thus patentable over the combination of the Excel article, in view of Havre, further in view of Rao et al. (US6,085,202).

The limitations and deficiencies of the Havre et al. patent have been completely described hereinabove. Rao does make up for these deficiencies. Rao discloses a specific implementation in which graphical images may be rendered in tables of columns and rows for better defined presentation. While the columns and rows may be manipulated and reordered, nothing is suggested about the reordering and manipulation of the graphical images themselves or the elements making up the graphical images as in the present invention.

If anything, the Rao teaching would lead away from the present invention as well as the disclosures of the Excel article or Havre. Rao converts the visual graphic images into tables because his graphics can not be manipulated or reordered. Thus, the suggestion from Rao is that if you are to manipulate and reorder graphic images, you must convert such images to a table format. This leads away from the graphing implementations of present invention. It would also lead one skilled in the art from considering any combinations with the programs of the Excel article and Havre.

Examiner relies on a statement in Rao that it is an improvement in Microsoft Excel. Applicants will concede that such a statement is sufficient to conclude that Rao is in an art analogous to that of the Excel article. However, such a statement alone can not provide a basis for combining the disclosure of the Microsoft Excel article with that of Rao in the manner suggested by the Examiner. Applicants submit that the Excel spreadsheet program has been the industry standard spreadsheet program for about 15 years. In that time period, Applicants estimate that the number of application programs and routines using the Excel program must be in the millions since its introduction. It is submitted that Examiner can not validly contend that the indication that a disclosure which uses the Excel spreadsheet program would per se be combinable with any of the millions of programs and routines which are Excel applications. In the present case such a combination of references, despite the teaching in Rao which as set forth above, would lead away from a combination of the disclosures of the Excel article, and Havre with Rao.

Specific claims 6, 13, and 20 may be further distinguished
from the combinations of Excel and Havre with either the Hao
or the Rao references, by an additional element which
renders these claims unobvious under 35 USC 103(a).

Dependent claims 6, 13, and 20 are patentable over the
combinations of references for all of the reasons set forth
hereinabove for the independent claims from which these
claims depend. In addition these claims set forth a
plurality of displayed icons, each respectively representing
one of the areas wherein each area may be selected through
selecting its respective icon.

For these teachings, the Examiner looks to the theme
labels in the Havre patent. These labels in Havre are just
labels. They can not be interactively selected by the user
to thereby select their associated area. There is no
suggestion in this combination of references of the claimed
user selectable representative icons.

Specific claims 7 and 14 may be further distinguished from
the combinations of Excel and Havre with either the Hao or
the Rao references, by an additional element which renders
these claims unobvious under 35 USC 103(a).

Dependent claims 7 and 14 are patentable over the
combinations of references for all of the reasons set forth
hereinabove for the independent claims from which these
claims depend. In addition, these claims set forth a
plurality of displayed icons, each respectively representing
one of the areas wherein the user may interactively reorder
the positions of the represented areas by reordering the
positions of the icons.

For these teachings, the Examiner also looks to the
theme labels in the Havre patent. These labels in Havre are
just labels. They can not be interactively selected by the
user to thereby select their associated area. There is no
suggestion in this combination of references of the claimed

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user selectable representative icons. Thus, there can be no suggestion of reordering the positions of the icons to thereby reorder the positions of the represented areas.

The Rejection of claims 21-23 under 35 USC 103(a) as being unpatentable over the Excel article in view of Havre (6,466,211), further in view of Hao (US2005/0088441) still further in view of Yonts (US6,590,577) is respectfully traversed.

The Yonts Patent is Owned by the Assignee of the Present Application, and Thus Can Not Preclude Patentability Under 35 U.S.C. 103(c). The present Application and the Yonts Patent reference were commonly owned by International Business Machines Corporation, the Assignee herein at the time the invention of the present Application was made.

The file of the present Application indicates that an Assignment of the present Application to said Assignee is filed in the Patent Office. Also the printed Yonts Patent indicates that it is assigned to the same Assignee.

Since the present Application has a filing date after November 29, 1999, and the Yonts Patent would qualify as prior art under the provisions of 35 U.S.C. 102(e), it is submitted that the Yonts patent can not be used to preclude patentability based upon 35 U.S.C. 103(c). [Attention is directed to MPEP Sections 706.02(l); (l)(1); (l)(2); and (l)(3).]. Accordingly, Yonts is not a valid reference.

Therefore, claims 21-23 are submitted to be unobvious over the remaining combination of Excel in view of Havre further in view of Hao. These dependent claims have the element that the operations are perform through an animated morphing sequence. The Examiner concedes at page 17, that with respect to these claims, the basic combination of remaining references fail to disclose operations involving morphing of a stacked graph though an animated sequence.

Claims 21-23 are thus patentable under 35 USC 103(a).

The Rejection of claims 21-23 under 35 USC 103(a) as being unpatentable over the Excel article in view of Havre (6,466,211), further in view of Rao (US6,085,202) still further in view of Yonts (US6,590,577) is respectfully traversed.

The Yonts Patent is Owned by the Assignee of the Present Application, and Thus Can Not Preclude Patentability Under 35 U.S.C. 103(c). The present Application and the Yonts Patent reference were commonly owned by International Business Machines Corporation, the Assignee herein at the time the invention of the present Application was made.

The file of the present Application indicates that an Assignment of the present Application to said Assignee is filed in the Patent Office. Also the printed Yonts Patent indicates that it is assigned to the same Assignee.

Since the present Application has a filing date after November 29, 1999, and the Yonts Patent would qualify as prior art under the provisions of 35 U.S.C. 102(e), it is submitted that the Yonts patent can not be used to preclude patentability based upon 35 U.S.C. 103(c). [Examiner's attention is directed to MPEP Sections 706.02(l); (l)(1); (l)(2); and (l)(3).]. Accordingly, Yonts is not a valid reference.

Therefore, claims 21-23 are submitted to be unobvious over the remaining combination of Excel in view of Havre further in view of Rao. These dependent claims have the element that the operations are perform through an animated morphing sequence. The Examiner concedes at page 17, that with respect to these claims, the basic combination of remaining references fail to disclose operations involving morphing of a stacked graph though an animated sequence. Claims 21-23 are thus patentable under 35 USC 103(a).

Conclusion

In view of the foregoing, it is submitted that:

claims 1-20 are patentable under 35 USC 103(a) as unobvious over the combination of the article <u>Excel, Available chart types</u> (an article printed from the Internet which appears to have a 2006 copyright date) in view of Havre (US6,466,211) further in view of Hao (US2005/0088441);

claims 1-20 are patentable under 35 USC 103(a) as being unobvious over the Excel article in view of Havre (6,466,211), further in view of Rao (US6,085,202);

claims 21-23 are patentable under 35 USC 103(a) as being unobvious over the Excel article in view of Havre (6,466,211), further in view of Hao (US2005/0088441), still further in view of Yonts (US6,590,577); and

claims 21-23 are patentable under 35 USC 103(a) as being unobvious over the Excel article in view of Havre (6,466,211), further in view of Rao (US6,085,202), still further in view of Yonts (US6,590.

Accordingly, it is respectfully requested that the Final Rejection be reversed, and that claims 1-23, all of the claims in the present patent application be found to be in condition for allowance.

Respectfully submitted,

By _____ 11/08/2006

J.B. Kraft   Date
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ALL CORRESPONDENCE SHOULD BE DIRECTED TO:
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<u>VIII. Claims Appendix</u>

1. A computer implemented user interactive method for graphically displaying the proportion of a total value of a time dependent variable contributed by each of a set of elements comprising the steps of:

   displaying the proportion contributed by each element of the same time dependent variable as an area within an ordered set of areas under a line representative of the total value of said time dependent variable;

   enabling the user to interactively select one of said set of areas; and

   performing a selected operation selected from the group consisting of hiding the selected area, displaying the selected area and reordering the position of the selected area within said ordered set responsive to said user selection.

1 2. The method of claim 1 wherein said ordered set of areas
2 under said line comprises a stacked area graph formed by
3 said ordered set of areas under said line.

1 3. The method of claim 2 wherein:
2   the selected operation performed is hiding the selected
3 area; and
4   further including the step, responsive to said hiding
5 step, of reforming at least one of the remaining displayed
6 areas so as to represent the resulting change of said
7 reformed area within said ordered set of stacked areas.

1 4. The method of claim 2 wherein:

2 the selected operation performed is displaying a

3 selected undisplayed area; and

4 further including the step, responsive to said step of

5 displaying, of reforming at least one of the other displayed

6 areas so as to represent the resulting change of said

7 reformed area within said ordered set of stacked areas.

1 5. The method of claim 2 wherein:

2 the selected operation performed is reordering the

3 position of the selected area within said ordered set; and

4 further including the step, responsive to said step of

5 reordering the position of the selected area within said

6 ordered set, of reforming at least one of the other

7 displayed areas so as to represent the resulting change of

8 said reformed area within said reordered set of stacked

9 areas.

1 6. The method of claim 2 further including the step of:

2 displaying a plurality of icons each representative of

3 one of said areas whereby the user may select one of said

4 areas by selecting the icon representative of the selected

5 area.

1 7. The method of claim 2 further including the step of:

2 displaying a plurality of icons each representative of

3 one of said areas whereby the user may reorder the position

4 of the selected area by reordering the position of the

5 selected icon representative of the selected area.

1 8. A data processor controlled user interactive display
2 system for graphically displaying the proportion of a total
3 value of a time dependent variable contributed by each of a
4 set of elements comprising:
5   means for displaying the proportion contributed by each
6 element of the same time dependent variable as an area
7 within an ordered set of areas under a line representative
8 of the total value of said time dependent variable;
9   means for enabling the user to interactively select one
10 of said set of areas; and
11   means for performing a selected operation selected from
12 the group consisting of hiding the selected area, displaying
13 the selected area and reordering the position of the
14 selected area within said ordered set responsive to said
15 user selection.

1 9. The display system of claim 8 wherein said ordered set
2 of areas under said line comprises a stacked area graph
3 formed by said ordered set of areas under said line.

1 10. The display system of claim 9 wherein:
2   the selected operation performed is hiding the selected
3 area; and
4   further including means, responsive to said hiding
5 operation, for reforming at least one of said remaining
6 displayed areas so as to represent the resulting change of
7 said reformed area within said ordered set of stacked areas.

1   11. The display system of claim 9 wherein:

2   the selected operation performed is displaying a

3 selected undisplayed area; and

4   further including means, responsive to said displaying

5 of said undisplayed area, for reforming at least one of the

6 other displayed areas so as to represent the resulting

7 change of said reformed area within said ordered set of

8 stacked areas.

1   12. The display system of claim 9 wherein:

2   the selected operation performed is reordering the

3 position of the selected area within said ordered set; and

4   further including means, responsive to said means for

5 reordering the position of the selected area within said

6 ordered set, for reforming at least one of the other

7 displayed areas so as to represent the resulting change of

8 said reformed area within said reordered set of stacked

9 areas.

1   13. The display system of claim 9 further including a

2 plurality of icons on said display each representative of

3 one of said areas whereby the user may select one of said

4 areas by selecting the icon representative of the selected

5 area.

1   14. The display system of claim 9 further including:

2   a plurality of icons on said display each

3 representative of one of said areas; and

4   means enabling the user to interactively reorder the

5 position of the selected area by.reordering the position of

6 the selected icon representative of the selected area.

1   15.   A computer program having code recorded on a computer
2   readable medium for graphically displaying the proportion of
3   a total value of a time dependent variable contributed by
4   each of a set of elements in a computer controlled user
5   interactive display system comprising:
6   means for displaying the proportion contributed by each
7   element of the same time dependent variable as an area
8   within an ordered set of areas under a line representative
9   of the total value of said time dependent variable;
10   means for enabling the user to interactively select one
11   of said set of areas; and
12   means for performing a selected operation selected from
13   the group consisting of hiding the selected area, displaying
14   the selected area and reordering the position of the
15   selected area within said ordered set responsive to said
16   user selection.

1   16.   The computer program of claim 15 wherein said ordered
2   set of areas under said line comprises a stacked area graph
3   formed by said ordered set of areas under said line.

1   17.   The computer program of claim 16 wherein:
2   the selected operation performed is hiding the selected
3   area; and
4   further including means, responsive to said hiding
5   operation, for reforming at least one of said remaining
6   displayed areas so as to represent the resulting change of
7   said reformed area within said ordered set of stacked areas.

1 18. The computer program of claim 16 wherein:

2   the selected operation performed is displaying a

3 selected undisplayed area; and

4   further including means, responsive to said displaying

5 of said undisplayed area, for reforming at least one of the

6 other displayed areas so as to represent the resulting

7 change of said reformed area within said ordered set of

8 stacked areas.

1 19. The computer program of claim 16 wherein:

2   the selected operation performed is reordering the

3 position of the selected area within said ordered set; and

4   further including means, responsive to said means for

5 reordering the position of the selected area within said

6 ordered set, for reforming at least one of the other

7 displayed areas so as to represent the resulting change of

8 said reformed area within said reordered set of stacked

9 areas.

1 20. The computer program of claim 16 further including a

2 plurality of icons on said display each representative of

3 one of said areas whereby the user may select one of said

4 areas by selecting the icon representative of the selected

5 area.

1 21. The method of claim 2 wherein said selected operation

2 is performed by morphing the displayed stacked area graph

3 through an animated display sequence of stacked graphs.

1 22. The display system of claim 9 wherein said means for

2 performing said selected operation, perform the operation by

3 morphing the displayed stacked area graph through an

4 animated display sequence of stacked graphs.

5 23. The computer program of claim 16 wherein said means for
6 performing said selected operation, perform the operation by
7 morphing the displayed stacked area graph through an
8 animated displayed sequence of stacked graphs.

IX. Evidence Appendix

There is no evidence presented.

X. Related Proceedings Appendix

There are no related proceedings.